Louisiana Department of Natural Resources
Strategic Online Natural Resources Information System
SONRIS 2000

Coastal Restoration Division
Biological Database

DATA DESCRIPTIONS

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INTRODUCTION

As part of the overall effort to evaluate the effectiveness of coastal restoration projects, the Coastal Restoration Division of the Louisiana Department of Natural Resources collects a variety of ecological, hydrological, and climatological data. This document briefly describes these data using column headings contained within the data files as a guide.

For a more detailed explanation of data collection activities performed by the Coastal Restoration Division, refer to the report entitled “Office of Coastal Restoration and Management Quality Management Plan, Louisiana Fiscal Year 2006” at the following address:

http://www.dnr.louisiana.gov/crm/D R S Reports/General/QMP FY 2006.pdf

Discrete Hydrographic Data

Discrete (monthly) hydrographic data can be downloaded by either project or station number for any range of dates that data are available. These files are relatively small as there are only approximately 12 records per station per year. In general, there is a much larger spatial distribution of stations where monthly data are collected than where hourly data are collected. The LDNR currently monitors over 400 stations throughout the coastal zone for discrete hydrographic data.

Station Number:	Alphanumeric value assigned to a station by LDNR used for identification purposes.
Month (mm):	Month that the data were collected.
Day (dd):	Day of the month that the data were collected.
Year (yyyy):	Year that the data were collected.
Time (hh:mm):	Time that the data were collected.
Staff Gauge Reading (ft):	Water level in feet as measured by visual inspection of a vertical graduated staff gauge usually surveyed to a known datum.
Depth (ft):	Water depth at a station in feet, where the measurements were taken; used mainly to verify stratification.
Bottom Water Temperature (˚C):	Water temperature in degrees Celsius measured just above the bottom of the water column.
Surface Water Temperature (˚C):	Water temperature in degrees Celsius measured just below the surface of the water column.
Bottom Specific Conductance (µS/cm):	Specific conductance in microsiemens per centimeter measured just above the bottom of the water column.

Surface Specific Conductance (µS/cm):	Specific conductance in microsiemens per centimeter measured just below the surface of the water column.
Bottom Salinity (ppt):	Salinity in parts per thousand calculated from “Bottom Specific Conductance”.
Surface Salinity (ppt):	Salinity in parts per thousand calculated from “Surface Specific Conductance”.
Bottom DO (mg/L):	Dissolved oxygen in milligrams per liter as measured just above the bottom of the water column.
Surface DO (mg/L):	Dissolved oxygen in milligrams per liter as measured just below the surface of the water column.
Bottom pH:	pH measured just above the bottom of the water column.
Surface pH:	pH measured just below the surface of the water column.
Bottom Velocity (ft/s):	Water velocity in feet per second measured just above the bottom of the water column.
Surface Velocity (ft/s):	Water velocity in feet per second measured just below the surface of the water column.
Secchi (ft):	Measure of water transparency in feet.
Fecal Coliform (MPN/100mL):	Measure of fecal coliform bacteria in “Most Probable Number per 100 milliliters”. Used as an indicator of potential overall contamination.

Upper Soil Porewater Salinity (ppt)	Soil pore water salinities in the field as measured with the use of a sipper probe to aid in extracting interstitial water from the upper portion of the salinity column and measuring salinity with a handheld salinity meter of extracted water.
Lower Soil Porewater Salinity (ppt)	Soil pore water salinities in the field as measured with the use of a sipper probe to aid in extracting interstitial water from the lower portion of the salinity column and measuring salinity with a handheld salinity meter of extracted water.
Organization:	Agency that collected the data.

Continuous Hydrographic and DCP Data

Continuous (hourly) hydrographic data may be downloaded by project or by station number, but it should be noted that these files are much larger than the discrete (monthly) files. For example, since one year of hourly sampling will yield approximately 8,760 records, a file for a project collecting data at 3 stations for a period of 5 years will contain approximately 131,400 records. Many typical spreadsheet programs will not be able to completely open a file of this size. For this reason, we recommend that hourly data be downloaded by station and not by project. The LDNR currently monitors over 125 stations throughout the coastal zone for continuous (hourly) hydrographic data. The term “Raw” in the variable descriptions below indicates that data within that column are listed as reported by the data-collection instrument and have not been adjusted or corrected. The term “Adjusted” indicates that the raw data have been corrected for biofouling, instrument drift, and/or instrument malfunction.

Station Number:	Alphanumeric value assigned to a station by LDNR used for identification purposes.
Month (mm):	Month that the data were collected.
Day (dd):	Day of the month that the data were collected.
Year (yyyy):	Year that the data were collected.
Time (hh:mm:ss):	Time that the data were collected.
Raw Water Temp (˚C):	Water temperature in degrees Celsius as reported by data recorder.
Adjusted Water Temp (˚C):	“Raw Water Temp” with erroneous data values removed.
Raw Specific Conductance (µS/cm):	Specific conductance in microsiemens per centimeter as reported by the data recorder.
Adjusted Specific Conductance (µS/cm):	“Raw Specific Conductance” corrected for biofouling and instrument drift, with erroneous data values removed.
Raw Salinity (ppt):	Salinity in parts per thousand as calculated from “Raw Specific Conductance”.

Adjusted Salinity (ppt):	Salinity in parts per thousand as calculated from “Adjusted Specific Conductance”, with erroneous data removed.
Raw Water Level (ft):	Water level as recorded in feet relative to the instrument sensor. This variable is not comparable through time at any given station nor is it comparable between or among other stations. Use “Adjusted Water Elev.: to Datum” for water elevation comparisons.
Adjusted Water Level (ft):	“Raw Water Level” corrected for biofouling and instrument drift, with erroneous data removed. This variable is not comparable through time at any given station nor is it comparable between or among other stations. Use “Adjusted Water Elev.: to Datum” for water elevation comparisons.
Raw Water Elev.: Marsh (ft):	“Raw Water Elev.: to Datum” shifted relative to average marsh elevation in the immediate vicinity of the data recorder.
Adjusted Water Elev.: Marsh (ft):	“Adjusted Water Elev.: to Datum” shifted relative to average marsh elevation in the immediate vicinity of the data recorder. Used for evaluating marsh flooding.
Raw Water Elev.: Datum (ft):	“Raw Water Level” converted to the North American Vertical Datum 1988 (NAVD88).
Adjusted Water Elev.: Datum (ft):	“Adjusted Water Level” converted to the North American Vertical Datum 1988 (NAVD88).
Raw Battery (V):	Battery voltage as reported by the data recorder.
Adjusted Battery (V):	“Raw Battery” with erroneous data values removed.
Raw Wind Speed (mph):	Wind speed in miles per hour as reported by anemometer.

Adjusted Wind Speed (mph):	“Raw Wind Speed” with erroneous data values removed.
Raw Wind Direction (degrees):	Wind direction in radian degrees as reported by anemometer.
Adjusted Wind Direction (degrees):	“Raw Wind Direction” with erroneous data values removed.
Raw Velocity (ft/sec):	Water current velocity in feet per second as reported by the data recorder.
Adjusted Velocity (ft/sec):	“Raw Velocity” with erroneous data values removed.
Raw Precipitation (tips):	Cumulative number of tips of “tipping bucket” type rain gauge.
Adjusted Precipitation (inches):	Calculated precipitation in inches, with erroneous data values removed.
Raw Air Pressure (mm of Hg):	Air pressure in millimeters of mercury as reported by barometer.
Adjusted Air Pressure (mm of Hg):	“Raw Air Pressure” with erroneous data values removed.
Raw Total Chlorophyll (µg/L):	Total chlorophyll in micrograms per liter as recorded by the data recorder.
Adjusted Total Chlorophyll (µg/L):	“Raw Total Chlorophyll” in micrograms per liter with erroneous data values removed.
Raw Dissolved Oxygen (mg/L):	Dissolved oxygen in milligrams per liter.
Adjusted Dissolved Oxygen (mg/L):	“Raw Dissolved Oxygen” in milligrams per liter with erroneous data values removed.
Raw pH (pH units):	pH in pH units.
Adjusted pH (pH units):	“Raw pH” with erroneous data values removed.
Raw Turbidity (NTU):	Turbidity in Nephelometric Turbidity Units.

Adjusted Turbidity (NTU):	“Raw Turbidity” in Nephelometric Turbidity Units with erroneous data values removed.
Raw Discharge (cubic ft/sec):	Discharge in cubic feet per second.
Adjusted Discharge (cubic ft/sec):	“Raw Discharge” in cubic feet per second, with erroneous data values removed.

Emergent Vegetation Data

Emergent vegetation data are collected from stations that are usually either distributed randomly or along transects within a project area. Data are collected at various time intervals ranging from seasonally to every 2-3 years.

Station Number:	Alphanumeric value assigned to a station by LDNR used for identification purposes.
Group:	A classification given to a group of stations that share a common characteristic.
Plot size (m^2):	Size of sample plot.
Date (mm/dd/yyyy):	The date data were collected.
Community:	Marsh type where station is located.
Sample Type:	Method used to distribute stations: random, stratified random, or along transects.
Vegetation Type:	Describes whether sampled vegetation was either naturally occurring or planted.
Total Percent Cover:	Percent cover of all emergent vegetation present in sample plot.
Tree Percent Cover:	Percent cover of tree layer in sample plot.
Shrub Percent Cover:	Percent cover of shrub layer in sample plot.
Herb Percent Cover:	Percent cover of herbaceous layer in sample plot.
Carpet Percent Cover:	Percent cover of carpet layer in sample plot.
Dominant Average Height (cm):	Average height of dominant (by percent cover) vegetation species in sample plot in centimeters.
Tree Average Height (cm):	Average height of tree layer in centimeters.

Shrub Average Height (cm):	Average height of shrub layer in centimeters.
Herb Average Height (cm):	Average height of herbaceous layer in centimeters.
Carpet Average Height (cm):	Average height of carpet layer in centimeters.
Scientific Name*:	Two-part Latin name assigned to a particular species.
Common Name*:	A general name of an organism that often varies by regions. Organisms may be referred to by multiple common names.
Percent Cover:	Percent cover of indicated vegetation species within the sample plot.
Braun-Blanquet Rank:	Braun-Blanquet rank category assigned to indicated species based on the percent cover estimate.
In/Out:	Describes whether species is present inside or outside of the sample plot. If a species is present inside and outside of the sample plot, then “Both” is used. The corresponding percent cover for that species only applies to its occurrence inside of the plot as no estimates of cover are made for occurrences of a species outside of the sample plot.
Number Planted:	Number of plants initially planted in a given area.
Number Alive:	Number of plants alive at time of sample.
Additional Species Description:	Miscellaneous comments pertaining to species.
Organization:	Agency that collected the data.
Personnel:	Names of personnel that collected the data.

* All scientific and common names follow the nomenclature defined in the USDA, NRCS Plants database and is cited as follows:

USDA, NRCS. 2002. The PLANTS Database, Version 3.5 (http://plants.usda.gov). National Plant Data Center, Baton Rouge, LA 70874-4490 USA. State of Louisiana PLANTS list downloaded July 2, 2003.

USDA, NRCS. 2001. The PLANTS Database, Version 3.1 (http://plants.usda.gov). National Plant Data Center, Baton Rouge, LA 70874-4490 USA. State of Louisiana PLANTS list downloaded November 6, 2001.

Explanation of symbols used in emergent vegetation plant species names:

1) an asterisk (*) in a plant name signifies that the plant is a hybrid species.
   -If the asterisk occurs before the genus name, then the plant is a cross between two plants
   of different genera.
   -If the asterisk occurs be between the genus and the species names, then the plant is a
   hybrid of two plants belonging to the same genus but two different species.

2) a question mark (?) in a plant name signifies that the validity of the name is in dispute within the botanical community.

Submerged Aquatic Vegetation Data

Project Number:	Alphanumeric value assigned to a project by LDNR used for identification purposes.
Station Number:	Alphanumeric value assigned to a station by LDNR used for identification purposes. For submerged aquatic vegetation sampling, the station is actually the center of the pond where sampling occurs.
Group:	A classification given to a group of stations that share a common characteristic.
Date (mm/dd/yyyy):	Date the data were collected.
Community:	Marsh type where station is located.
Sample Number:	Actual submerged aquatic vegetation sample within a station.
Scientific Name*:	Two-part Latin name assigned to a particular species.
Depth (cm):	Water depth in centimeters.

* All scientific names follow the nomenclature defined in the USDA, NRCS Plants database and should be cited as follows:

USDA, NRCS. 2001. The PLANTS Database, Version 3.1 (http://plants.usda.gov). National Plant Data Center, Baton Rouge, LA 70874-4490 USA. State of Louisiana PLANTS list downloaded November 6, 2001.

Sediment Accretion Data

Project Number:	Alphanumeric value assigned to a project by LDNR used for identification purposes.
Station Number:	Alphanumeric value assigned to a station by LDNR used for identification purposes.
Group:	A classification given to a group of stations that share a common characteristic.
Date (mm/dd/yyyy):	Date the data were collected.
Time (hh:mm:ss):	Time the data were collected.
Coordinates:	Location of a core sample in a plot relative to a grid placed over the plot. Used to ensure a unique core sample over time as more than one core is usually taken from a plot.
Accretion Measurements (mm):	Sediment that has accumulated over the Feldspar Marker Horizon in millimeters. Four measurements are taken from around a frozen sediment plug.
Total Average Accretion (mm):	Average vertical accretion in millimeters at a particular station.

Sediment Staff Gauge Data

Project Number:	Alphanumeric value assigned to a project by LDNR used for identification purposes.
Station Number:	Alphanumeric value assigned to a station by LDNR used for identification purposes.
Group:	A classification given to a group of stations that share a common characteristic.
Date (mm/dd/yyyy):	Date the data were collected.
Time (hh:mm:ss):	Time the data were collected.
Staff Gauge Reading (ft):	Sediment elevation in feet as measured by visual inspection of a vertical graduated staff gauge usually surveyed to a known datum.
Staff Gauge Water Level Reading (ft):	Water level in feet as measured by visual inspection of the same staff gauge as that used to measure sediment elevation.

Surface Elevation Data

Station ID:	Alphanumeric value assigned to a station by LDNR used for identification purposes.
Group:	A classification given to a group of stations that share a common characteristic.
Date (mm/dd/yyyy):	Date the data were collected.
Time (hh:mm:ss):	Time the data were collected.
Establishment Date (mm/dd/yyyy)	Date the station was established.
Establishment Time (mm/dd/yyyy)	Time the station was established.
Direction:	Compass direction of the Surface Elevation Data in degrees.
Pin Number	Any given station will have nine (9) individual Pin measurements at each of four (4) compass directions for a total for 36 measurements.
Pin Height (mm):	Sediment position relative to the Surface Elevation Data as measured in millimeters by one stainless steel or fiberglass rod (Pin).
SET ID:	Unique identification number assigned to a specific SET.
Organization	Agency that collected the data.
Personnel	Names of personnel that collected the data.
Comments	Description that pertain to problems with individual pin readings.
Site Conditions	Weather, water level related to marsh surface, dominant plant species, etc., comments about site conditions at the station.

Shoreline Marker Data

Project Number:	Alphanumeric value assigned to a project by LDNR used for identification purposes.
Station Number:	Alphanumeric value assigned to a station by LDNR used for identification purposes.
Group:	A classification given to a group of stations that share a common characteristic.
Date (mm/dd/yyyy):	Date the data were collected.
Time (hh:mm:ss):	Time the data were collected.
Left (m):	A measurement of vegetated shoreline position in meters 45˚ off-center to the left from a defined point.
Center (m):	A measurement of vegetated shoreline position in meters directly perpendicular from a defined point.
Right (m):	A measurement of vegetated shoreline position in meters 45˚ off-center to the right from a defined point.
Corrected Left (m):	Left measurement corrected for the angle off-center (sin of 45˚ multiplied by measurement).
Corrected Right (m):	Right measurement corrected for the angle off-center (sin of 45˚ multiplied by measurement).
Average (m):	Average shoreline position at station. Calculated from center, corrected left, and corrected right measurements.

Soil/Sediment Properties Data

Project Number:	Alphanumeric value assigned to a project by LDNR used for identification purposes.
Station Number:	Alphanumeric value assigned to a station by LDNR used for identification purposes.
Group:	A classification given to a group of stations that share a common characteristic.
Date (mm/dd/yyyy):	The date data were collected.
Time (hh:mm:ss):	The time data were collected.
Core Tube Length (cm):	Length of sediment sample core.
Percent Organic Matter (%):	Percent organic matter in sample; proportion of organic matter per 100 parts.
Bulk Density (Field):	Density of sample before being dried.
Bulk Density (Air Dried):	Density of sample after being air dried.
Bulk Density (Oven):	Density of sample after being dried in an oven.
Dry Core Weight:	Weight of dried sample.
COLE:	Coefficient of Linear Expansion. Measurement of shrink/swell properties of a soil core.
Percent (%) Water (Moisture):	Calculated by taking the wet sample weight minus the dry sample weight divided by the wet sample weight times one hundred.
Core Volume (in^3):	Volume of sediment core in cubic inches.
Core Volume (cm^3):	Volume of sediment core in cubic centimeters.
Pore Water Salinity (ppt):	Salinity in parts per thousand of interstitial soil pore water.
EC (umhos/cm):	Electrical conductance of sample.
Salts (mg/kg):	Dry weight of salts in given volume of sample.

Survey Point Data

Project Number:	Alphanumeric value assigned to a project by LDNR used for identification purposes.
Station Number:	Alphanumeric value assigned to a station by LDNR used for identification purposes. For survey data, the station is actually the center of the area where surveying occurs.
Group:	A classification given to a group of stations that share a common characteristic.
Status:	Generally describes whether data were collected in the Pre- or Post-construction period.
Date (mm/dd/yyyy):	Date the data were collected.
Time (hh:mm:ss):	Time the data were collected.
Point Number:	Identification number assigned to data point by survey team. In many cases data are collected at points along transects and a station might consist of several transects.
Easting utm83 (m):	Horizontal coordinate.
Northing utm83 (m):	Horizontal coordinate.
Elevation NAVD88 (m):	Elevation relative to North American Vertical Datum of 1988.